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ABSTRACT

Training and Employment Prerequisites Surveys were administered to students at two Nevada correctional institutions. The survey population consisted of secondary school students enrolled in English, reading, or mathematics classes. Subject-area teachers decided which students would receive Form A (for those working on skills normally taught in the elementary school) and which would receive Form B (for those working on post-elementary skills). In general, students did relatively well on most sections of the English literacy surveys multiple choice sections. On the writing sample sections the content items were consistently rated "acceptable." The form items presented a different story. Overall the three form characteristics--grammar, capitalization and punctuation, and spelling--were consistently weak in students' writing. Results of the pre-algebra surveys showed that scores on Form A indicated that no area was particularly weak. Skill area scores on Form B suggested that decimals and percentages were especially difficult for many students. (Results are shown in six tables. Detailed comments are made on specific items that were difficult for students.) (YLB)

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TRAINING AND EMPLOYMENT PREREQUISITES SURVEY: NEVADA CORRECTIONAL CENTERS FOR YOUTH

Larry Gentry and Adrienne Escoe

ABSTRACT

The Training and Employment Prerequisites of youth at two Nevada correctional centers were surveyed. This report presents survey statistics and an analysis of individual performance by skill area.

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TRAINING AND EMPLOYMENT PREREQUISITES SURVEY: NEVADA CORRECTIONAL CENTERS FOR YOUTH

Larry Gentry and Adrienne Escoe

Training and Employment Prerequisites Surveys (TEPS) were administered to students at two Nevada correctional institutions in December, 1982. The survey population consisted of secondary school students enrolled in English, reading, or mathematics classes at both the Nevada Youth Training Center at Elko and the Nevada Girls Training Center at Caliente.

The various sections of the surveys were administered by subject-area teachers to their own students. Each teacher decided which students would receive Form A (for those working on skills normally taught in the elementary school) and which would receive Form B (for those working on post-elementary skills). Decisions for assigning forms were guided by instructions that accompanied the surveys.

RESULTS OF THE ENGLISH LITERACY SURVEYS: MULTIPLE-CHOICE SECTIONS

The statistics show in the Table 1 confirm that both forms of the survey are psychometrically sound. Table 2 provides an overview of strengths and weaknesses on specific skill areas. In general, students did relatively well on most sections of the surveys. Those taking Form A (especially males) found spelling, location/study, and mechanics to be the most difficult areas. Students who took Form B did well in every area except spelling.

Table 1

Survey Statistic

English Literacy (Multiple-Choice Sections)

	Form A	Form B
Number of students	73	123
Reliability	.95	.96
Standard error measurement	1.58	1.23
Range of scores	18-71	15-80
Mean score	59.60	67.71
Standard deviation	13.44	13.54
Number of items	71	80

Table 2

English Literacy Skill Areas:
Percent of Correct Responses (Multiple-Choice Sections)

Skill Areas	ENGLISH LITERACY A			ENGLISH LITERACY B		
	Male N = 59	Female N = 14	Total N = 73	Male N = 64	Female N = 59	Total N = 123
Text Comprehension	79	78	79	80	85	83
Vocabulary	79	81	80	85	88	87
Word Structure	83	85	84	89	96	93
Mechanics	70	74	71	83	92	88
Spelling	65	81	69	67	84	75
Usage	75	78	76	78	89	84
Location Study	69	78	71	78	91	85

Specific items that were difficult for students included:

Form A, Item 9: Students were asked to find the main topic of a two-paragraph article pertaining to American history. Only 58.9 percent of the students chose the correct answer. The remaining responses were distributed over the three answer choices, indicating that the task itself was difficult for many students.

Form A, Items 31-32: These vocabulary items asked the students to identify the correct meaning of words used in context. Only 56.2 percent knew the correct meaning of primitive, and only 53.4 percent identified the meaninig of brutal. These two words were the most difficult in the 11-item vocabulary section. The items suggest that many students are simply unfamiliar with these words.

Form A, Items 46-47: For these capitalization items, 60.3 percent capitalized Saturday and 53.4 percent capitalized Memphis, suggesting that students may have had inadequate instruction or practice on capitalizing proper nouns.

Form A, Items 50-52: These spelling items required students to identify the properly suffixed forms of base words. The skills involved and correct responses were: (1) change y to i and add -es (67.1%); (2) drop final e and add -ing (54.8%); (3) double final consonant and add -ed (54.8%). From these responses, it appears that many students have not yet acquired some of the most elementary rules of suffixation.

Form A, Item 58: This was the single item in the usage section eliciting a low score. Students were asked to identify the correct word to use in the construct "Has Tony _____ to. . . ." Only 50.7 percent chose the correct response gone, while 37.0 percent chose went, indicating unfamiliarity with the past participle form.

Form A, Items 59-62: These four items all related to dictionary usage. Scores ranged from a low of 52.1 percent to a high of 67.1 percent. These responses suggest that many students have had inadequate exposure to dictionary practice.

Form A, Items 70-71: For both of these items, which are based upon a diagram of theater seating, students had to refer to two pieces of data (rows and sections) to arrive at the correct answer (location of seats). Less than 60 percent of those tested were successful, suggesting that many students had difficulty integrating reference data from multiple sources.

Form B, Item 10: This task required students to identify the implied message in an advertisement. Only 54.5 percent did so, suggesting that many of those taking the survey have had inadequate instruction or practice in identifying propaganda.

Form B, Item 16: Again, students had to infer the correct answer from data given in a written passage; only 65.0 percent marked the correct answer. Students' responses to this item confirm a general weakness in inferential comprehension.

Form B, Item 54: Students were asked to identify the correct vowel-spelling for the word extreme. Twenty percent chose the spelling extrem, while 65.9 percent chose the correct answer.

Form B, Item 56: For this spelling item, students had to drop the final e in write and add the suffix -ing to obtain writing. Only 66.7 percent responded correctly, while 22.0 percent doubled the final consonant, yielding the incorrect spelling, writting. The fact that this item assesses one of the most commonly taught spelling rules suggests that spelling instruction for this population may have been spotty.

RESULTS OF THE ENGLISH LITERACY SURVEYS: WRITING SAMPLE SECTION

All students who were administered the multiple-choice sections of the English Literacy Surveys also responded to the writing sample section. The prompt for Form A included a simple map of a portion of a school building and a short paragraph that told students to write directions for traveling from one location in the school to another. Eight items were marked by teachers to describe length, content, and form characteristics of each student's writing sample. The prompt for Form B was a short paragraph directing students to write the body of a business letter, the opening and closing letter parts were provided in the prompt. Teachers marked nine items for Form B to describe writing sample characteristics.

Table 3 shows group rating percentages for each writing sample item, Form A followed by Form B. For both Forms, the first item, T-1, describes the approximate size of the writing sample. This item served as a baseline to determine the acceptability of form characteristics: grammar, capitalization and punctuation, and spelling. Teachers were asked to mark the number of errors on a student's writing sample for each of the three characteristics, which were described by the last three items. Based on the size of the sample, the number of errors determined acceptability. For example, up to two errors were considered acceptable for a half-page sample but on a full-page or longer sample, up to four errors were acceptable. The acceptability of other items was determined by whether a writing sample met content criteria, such as staying on topic. The rating "No response" means that no rating choice

Table 3

English Literacy Writing Sample: Percent of Ratings by Item

Form A

Item Description and Rating	Male N = 59	Female N = 14	Total N = 73
	Percent		
T-1. Size of writing sample.			
No response	5.1	14.3	6.8
Full page +	--	21.4	4.1
3/4 page	1.7	28.6	6.8
1/2 page	32.2	14.3	28.8
1/4 page or less	61.0	14.3	52.1
*	--	7.1	1.4
TOTAL	100.0	100.0	100.0
T-2. Includes important information about direction of movement.			
No response	5.1	14.3	6.8
Acceptable	84.7	78.6	83.6
Unacceptable	10.2	7.1	9.6
TOTAL	100.0	100.0	100.0
T-3. Includes critical information about features along the way.			
No response	5.1	14.3	6.8
Acceptable	64.4	78.6	67.1
Unacceptable	30.5	7.1	26.0
TOTAL	100.0	100.0	99.9**
T-4. Writes directions in logical order.			
No response	5.1	14.3	6.8
Acceptable	91.5	78.6	89.0
Unacceptable	3.4	7.1	4.1
TOTAL	100.0	100.0	99.9**
T-5. Uses precise language.			
No response	5.1	14.3	6.8
Acceptable	62.7	35.7	57.5
Unacceptable	32.2	50.0	35.6
TOTAL	100.0	100.0	99.9**
T-6. Uses correct grammar and complete sentences.			
Acceptable	39.0	35.7	38.4
Unacceptable/No response	61.0	64.3	61.6
TOTAL	100.0	100.0	100.0
T-7. Capitalizes and punctuates correctly.			
Acceptable	35.6	35.7	35.6
Unacceptable/No response	64.4	64.3	64.4
TOTAL	100.0	100.0	100.0
T-8. Spells correctly.			
Acceptable	57.6	42.9	54.8
Unacceptable/No response	42.4	57.1	45.2
TOTAL	100.0	100.0	100.0

*Answer choice that does not correspond to any rating for this item.

**Total does not equal 100 percent because of rounding.

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Form B

Item Description and Rating	Male N = 64	Female N = 59	Total N = 123
	Percent		
T-1. Size of writing sample.			
No response	--	32.2	15.4
Full page +	1.6	8.5	4.9
3/4 page	3 .1	11.9	7.3
1/2 page	39.1	28.8	34.1
1/4 page or less	56.2	18.6	38.2
TOTAL	100.0	100.0	99.9**
T-2. States problem.			
No response	--	32.2	15.4
Acceptable	90.6	67.8	79.7
Unacceptable	9.4	--	4.9
TOTAL	100.0	100.0	100.0
T-3. States desired course of action.			
No response	--	32.2	15.4
Acceptable	75.0	55.9	65.9
Unacceptable	25.0	11.9	18.7
TOTAL	100.0	100.0	100.0
T-4. Uses precise language.			
No response	--	32.2	15.4
Acceptable	68.7	42.4	56.1
Unacceptable	31.2	25.4	28.5
TOTAL	93.9**	100.0	100.0
T-5. Uses language appropriate for a business letter.			
No response	--	32.2	15.4
Acceptable	85.9	66.1	76.4
Unacceptable	14.1	1.7	8.1
TOTAL	100.0	100.0	99.9**
T-6. Stays on topic.			
No response	--	32.2	15.4
Acceptable	96.9	61.0	79.7
Unacceptable	1.6	6.8	4.1
*	1.6	--	0.8
TOTAL	100.1**	100.0	100.0
T-7. Uses correct grammar and complete sentences.			
Acceptable	60.9	67.8	64.2
Unacceptable/No response***	39.1	32.2	35.8
TOTAL	100.0	100.0	100.0
T-8. Capitalizes and punctuates correctly.			
Acceptable	60.9	54.2	57.7
Unacceptable/No response***	39.1	45.8	42.3
TOTAL	100.0	100.0	100.0
T-9. Spells correctly.			
Acceptable	51.6	50.8	51.2
Unacceptable/No response***	48.4	49.2	48.8
TOTAL	100.0	100.0	100.0

*Answer choice that does not correspond to any rating for this item.

**Total does not equal 100 percent because of rounding.

***Every male student had a response recorded for this item, so this rating is actually only "Unacceptable" for males.

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was marked for the item. Abbreviated descriptions of each item are listed in Table 3.

Table 3 reveals that, for both Forms, most students wrote a half-page or less. Overall, the content items on both Forms were consistently rated "acceptable" where data were provided, except for Uses precise language (T-5 on A, T-4 on B) and, for males only, Includes critical information about features along the way (T-3 on A). Precision in written language was not a strength of students' writing in general, but seemed especially weak for female students who were administered Form A of the survey (50 percent had Unacceptable ratings). However, nearly a third of all female students who took Form B had no rating recorded for this item.

The form items for both A and B writing samples present a different story. Overall, and also by gender, the three form characteristics are consistently weak in students' writing. Because of the nature of processing data for this study, no distinction was made between Unacceptable and No response ratings for these items. Nevertheless, the data suggest a closer look at students' writing skills in grammar/usage, mechanics, and spelling; Unacceptable/No response ratings for the three form items ranged from a low of 32 percent for females who were administered Form B to 64 percent for all students who took Form A of the English Literacy survey. These findings are only generally consistent with the results of the multiple-choice sections of the

survey that "cover" similar skill areas, and performances look much stronger there. A plausible explanation is that productive writing is not emphasized much in day-to-day instruction and these resullts may reflect a restricted opportunity to learn and practice for some students. On the other hand, students' performances in grammar/usage, mechanics, and spelling were nonetheless among the lowest four skill areas on the multiple-choice sections, implying that these general areas do not receive sufficient emphasis in classrooms.

RESULTS OF THE PRE-ALGEBRA SURVEYS

The statistics in Table 4 again reflect sound psychometric characteristics. Table 5 shows the percent of correct answers for each subsection of Form A; Table 6 provides the same data for Form B. Skill area scores on Form A ranged from a low of 77 percent to a high of 98 percent, indicating that no area could be said to be particularly weak at that level. Skill area scores on Form B, however, suggest that decimals and percentages are especially difficult for many students.

Specific items yielding low scores included:

Form A, Item 24: This item required students to "borrow" in subtracting a 3-digit number from another 3-digit number. Only 66.7 percent marked the correct answer, indicating that the concept of "borrowing" may have been given inadequate attention in instruction.

Form A, Items 38-39: Both of these items involved the "hands-on" use of rulers. Item 38 asked students to measure a figure with a centimeter ruler, while Item 39 required the use of an inch ruler. Only 40 percent answered the centimeter problem correctly, and 66.7 percent provided the correct answer for the inch problem. It may be that some students did not have rulers available, or that, having rulers available, students confused centimeters and inches. In any event, this is an area that suggests a closer look at instruction.

Table 4

Survey Statistics

Pre-Algebra

	Form A	Form B
Number of students	30	95
Reliability	.80	.86
Standard error of measurement	.73	.70
Range of scores	33-52	19-53
Mean score	47.20	41.84
Standard deviation	3.93	6.81
Number of items	52	53

Table 5

Pre-Algebra Skill Areas: Form A
Percent of Correct Responses

	Male N = 0	Female N = 30	Total N = 30
Numeration	-	91	91
Fractional Numbers	-	88	88
Addition/Subtraction: Basic Facts	-	96	96
Addition/Subtraction: Operations	-	92	92
Multiplication/Division: Basic Facts	-	98	98
Multiplication/Division: Operations	-	94	94
Measurement	-	77	77
Geometry	-	78	78
Problem Solving	-	94	94

Table 6

Pre-Algebra Skill Areas: Form B
Percent of Correct Responses

	Male N = 48	Female N = 47	Total N = 95
NUMERATION:			
Whole Numbers	80	86	83
Fractional Numbers	86	91	88
Decimals/Percent	52	49	51
COMPUTATION			
Whole Numbers	94	97	95
Fractional Numbers	74	78	76
Decimals	72	75	73
Percent	72	66	69
MEASUREMENT	82	71	77
PROBLEM SOLVING	89	92	90

Form A, Item 45: Students were shown four geometric figures and asked to identify the one that "is not a rectangle." Two of the figures are "classic" rectangles, one is a square (also a rectangle), and the other is a parallelogram. Only 23.3 percent marked the correct answer, the parallelogram; 43.3 percent marked the square, and surprisingly, 30.0 percent marked one of the classic rectangles. Mainly, it shows that even older students have a hard time thinking of a square as anything other than a square.

Form B, Items 13-16: Five problems on the survey required students to convert numbers from decimals to percents or percents to decimals. On four of the five problems, scores ranged between 40.0 percent and 52.6 percent, suggesting that instructional emphasis in this area may be weak.

Form B, Item 30: This problem required students to divide one fraction by another. The majority (57.9%) did so correctly, but another 22.1 percent were unable to reduce the answer to lowest terms.

Form B, Items 34, 37-38: In each of these multiplication or division problems involving decimals, the majority of students performed the operations correctly, but had difficulty determining the correct placement of the decimal. Correct responses ranged from 49.5 percent to 65.3 percent. This is another area of instruction that needs a closer look.

Form B, Items 42-43: Both of these items required students to compute percentages. Only 47.4 percent were successful on an item pertaining to sales tax and 64.2 percent correctly answered a question regarding interest rates. Both areas involve important consumer skills which may present problems to those students who do not learn them by the time they leave secondary school.

Form B, Item 47: Students were asked to use their inch ruler to measure a figure. Only 49.5 percent chose the correct answer, again raising the question of the availability of rulers during the test session.